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ABSTRACT

This study investigated the relationship between work habits, television viewing, and academic achievement. Analysis of a cross-sectional sample of 471 urban college students was performed in two stages. First, data were cross tabulated and chi-square hypothesis tests were performed. The second stage was formulation of a tentative model postulating a number of structural relationships between variables. This model was tested using regression analysis. There appeared to be no evidence that outside work affects students' viewing habits or academic achievement. The amount of television viewing was associated with lower grades but it appeared to be a minor influence when the effects of academic major, course load, and demographic variables were also considered. (CH)

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ACADEMIC ACHIEVEMENT AND TELEVISION VIEWING: THE CASE OF THE COLLEGE STUDENT

by

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Abstract

This study investigates the relationship between television viewing and academic achievement as part of a social process. Using a cross-sectional sample of 471 urban college students, a tentative model was tested using regression analysis. Results suggest that television viewing habits are not an important influence on academic achievement compared with other variables.

ACADEMIC ACHIEVEMENT AND TELEVISION VIEWING: THE CASE OF THE COLLEGE STUDENT

In a recent paper on what he terms the "famine" in sociological research on mass media, Gans has listed among "the many good reasons.....why sociologists do not study mass communications" the contention that, like educators generally, they "are hostile toward them, partly because they are often successful competitors for their students' time and interest".[1] He suggests that the famine might be counteracted initially by small studies. The present study may be viewed as such a preliminary study, seeking to examine how one of the mass media, television, competes with teachers for their students' time and interest, and the consequences of this competition for educational achievement.

There have been a considerable number of studies undertaken, by sociologists and others, in attempts to ascertain whether or not the media (and especially television), by incorporating what have been considered excessive amounts of sexual and violent material in their content, have any effect in precipitating sexual and violent crime by some of their audience members.[2] Such studies have been undertaken, for the most part, on subjects considered by social scientists to be most 'at risk' as potential delinquents. Indeed, as Gans points out, there has been a marked lack of inclination on the part of sociologists to study even groups of lower status audience members -- except where such groups are characterized as actual or potential 'social problem' groups.

Thus, while considerable attention has been paid to the effects of mass media in general, and television in particular, on the

socialization and education of young children and adolescents of lower status socio-economic groups, there has been very little consideration of these effects on, for example, college students. These young people, who are still undergoing full-time education, are not typically of low socio-economic status backgrounds; nor are they easily definable as a social problem group--at any rate, in any way upon which the mass media are likely to be seen as causally contingent.

The general import of existing sociological studies of the effects of television on audiences composed of members of higher levels of educational achievement is mixed. It reflects, of course, the wide variety of conclusions drawn from studies of the alleged effects of television on the knowledge, interests and behavior of audiences of all social and educational backgrounds.[3] Belson, for example, has argued that overall effects of television viewing have been detrimental; inasmuch as regular viewing may be seen to have resulted in a narrowing of the range of interests that audience members held before becoming viewers.[4] Further, Belson suggests that television viewers become passive in the pursuit of what interests they retain, and notes a reduction in their powers of initiative, creativeness and imagination, as well as in the constancy of direction of their mental and physical processes!

Klapper, by contrast, has argued that the overall effects of widespread television viewing may be beneficial.[5] While accepting that television's power to address a large and heterogeneous audience

of societal members simultaneously may contain inherent dangers for the preservation of distinctive subcultural sets of values, he points out that in the recent history of American society, television has been a force for social unity by facilitating the development of some homogeneity in socio-cultural experiences and expectations. Moreover, Klapper suggests, as a counter to criticisms that most television content is merely escapist or entertaining, that such content may be utilized nevertheless as a basis for the development of widespread tastes among viewers for a "higher" cultural level of content.

Of the more specific effects of television on educational achievement, there is an equally bewildering divergence of views. It has recently been suggested by Skornia, for example, that the effects are unequivocally negative, since the values represented by and within television productions run systematically counter to those which the educational system attempts to present to young people.[6] Star performers have high status-rankings within the social structure and, it is argued, are thus thought worthy of emulation by the young; and, in their search for large audiences, production companies turn away from the presentation of conventional life-styles to more entertaining, deviant, and sensationalist ones.

A study recently completed in England, however, on television and delinquency, suggests nevertheless that audience members with above-average knowledge will gain information from watching interesting and informative shows, and will even extract experience while watching entertaining and escapist productions.[7] The researchers

suggest, indeed, that "a number of audience studies.....show that intelligence is related to the use of media as sources of knowledge."[8]

This would appear to contradict the conclusions of Wade and Schramm that television usage is a more powerful predictor of a viewer's knowledge and education, than age, sex or career situation (except, in the career situation, where the viewer had achieved less than a high school diploma). The higher the viewer has achieved educationally, the higher is assumed to be the knowledge he has acquired and the less likely he is to regard television as a source for increasing his knowledge.[9] Wade and Schramm's conclusions are supported indirectly by those of Greenberg and Davis, which suggest that the urban poor in America not only spend more than twice as much of their time viewing television than the population at large, but that they like the medium more than the general population and rate it as the medium they trust and believe in more than any other.[10] Hazard also suggests that the lower the educational level of viewers, the more time they are likely to spend watching television.[11] Comparable findings are reported by Thompson.[12] Working with third grade children, he found "some tendency for those who do more viewing to come from lower socio-economic levels, to be less intelligent, and to do more poorly in school."[13] Powell, however, found only small non-significant differences in amount of viewing by intelligence level in his study of Australian 12-14 year olds.[14] His findings do suggest a rather interesting and complex relationship between family educational expectations and structure,

and intelligence and amount of viewing.[15]

Steiner[16] and Robinson[17] attempted to measure the distribution of available leisure time between a variety of activities, which included television viewing, of groups with different educational levels among the American population as a whole. They both found that the groups with educational levels closest to those of the population from which our sample was taken, that is, college graduates, reported that they spent between one-half and two-thirds as much time watching television as the remaining groups in their samples. On the other hand, a study of the weekly leisure time allocation of college students by Benson reveals, among its largely methodological conclusions, that an internally undifferentiated category of "watching entertainment" (which includes television viewing) accounts for the largest single leisure time activity, taking eight of an available twenty-eight hours, or almost 30%.[18] However, only the research of Meyersohn in New York City has suggested that the more educated spend more time watching television than the less educated.[19]

The central assumption of the present study is that time college students spend watching television, even if it is not time that would otherwise have been spent in studying, is nevertheless not likely to provide them with increases in knowledge and information which will lead to an improvement in their college grade indices. Thus it was hypothesized that students who claimed to watch a greater amount of television, usually expected, and received, lower grades than those who claimed to watch less television.

Method of Data Collection

A sample of 600 urban college students completed self-administered questionnaires during the months of November and December 1971. Non-responses and spoiled questionnaires resulted in 471 complete questionnaires being retained for analysis.

The questionnaire included twenty-six questions. Amount of television viewing was used as a dependent variable in relation to age, sex, religion, race, employment, amount of hours worked, means of support, academic status, major, and the number of credits the responding student was carrying at the time of the study. However, amount of television viewing was also used as an independent variable in relation to present college grade index, expected index, and the amount of time the responding student said he spent studying.

The levels of grade indexes used for computations were 1.0 to 4.0, in steps of 0.5. Where the college index was needed, freshmen who had just entered college were not included in the calculations, since, obviously, they could not then have had an index. For the daily hours of television viewing, the following categories were used: 1 hour or less, 2 hours, 3 hours, 4 hours, and 5 hours or more. For weekly hours of television viewing categories of 5 hours, 10 hours, 15 hours, and 20 hours or more were used. The data were broken down for tabulation on both a daily and weekly basis, because it was assumed that some students might have a greater amount of time for watching television on weekends than on weekdays.

Analysis of the Data

The analysis was performed in two stages. First, the data were cross tabulated, and chi-square hypothesis tests were performed. However, although cross tabulation is frequently a useful form of analysis (particularly in identification of non-linearities, for example), its essentially bivariate nature can mislead the researcher who is dealing with a complex system of variables. Regression analysis offers a useful approach to such systems, and permits the study of relationships between variables without confounding effects of covariance which can bedevil chi-square analysis. Thus, a second stage in the analysis was to formulate a tentative model postulating a number of structural relationships between variables. This model was tested using regression analysis.

Findings

The results of the chi-square analysis are probably more important for the relationships not found significant, thar for those cases where the null hypothesis was rejected. For example, hours spent watching TV (daily or weekly) were not associated with number of hours worked. Nor were actual grades related to the number of hours worked. However, there was a negative association between hours worked and expected grade point, at the $p<.05$ level. This suggests that students who spend more time working do not expect to achieve as high a grade point, though their current grade point average does not differ significantly from their less hard-working compatriots.

A negative relationship emerged between expected grades and daily hours spent watching TV. Although there was no association between actual grade point and daily TV watching, students who reported higher rates of daily TV watching tended to expect lower grade point averages ($p<.06$). On the other hand, when relationships with reported weekly TV watching are considered, a different pattern results. Higher levels of weekly TV watching were negatively associated ($p<.05$) with actual grade point, but not with expected grade point.

The findings on the relationship of grades (expected or actual) and TV watching are difficult to reconcile completely, suggesting either distinct differences in daily and weekly viewing habits, caused by the weekend or some problems with the validity of the TV watching questions. However, in both cases for which significant relationships emerged, the association was negative. There was no evidence that hours worked affected actual grade point, though it did depress expectations, and, finally, no relationship emerged between hours worked and television watching. The chi-square tests are summarized in Table 1.

Simultaneous Equation Model

A tentative model of the relationship between work habits, TV preferences, TV watching and grade point was configured as a flow-chart (Figure 1).

The model was based on a literature review and the tentative

hypotheses of the researchers. It reflects a view of TV viewing as part of a social process, yet an important activity in its own right. Two regression equations were derived from the model; in the first television viewing was the dependent variable, in the second equation it was an independent variable. Since we were interested in the structure of the system, our concern focussed on the significance and direction of the regression coefficients. Many of the variables were dummied to meet the assumptions of regression analysis.[20] The system of equations was recursive, enabling unbiased parameter estimation via ordinary least squares.[21]

The regression equations and findings are presented in Tables 2 and 3. Although the R^2 (explained variance) was not high for the first equation, the regressions were significant and a good proportion of the tentative structural relationships were supported.

The amount of television watching is not related to the amount of outside work. Amount of viewing is, however, positively related to expressed preference for television, and negatively related to the number of credits carried and to race (white or oriental).

Grade point average was positively related to the number of credits and majors of mathematics, languages or social sciences. It was not significantly affected by sex or race, but was negatively associated with the amount of television watched and being Catholic.

Conclusions

This paper examined the relationships between demographic characteristics, work habits, television viewing and academic achievement of college students using chi-square and regression analysis. On the basis of this study, there is no evidence that outside work affects student's viewing habits or academic achievement. Black students, however, tended to watch more television, as did students who reported a preference for television viewing over studying.

Amount of television viewing was associated with lower grade points, though we would not wish to infer causality on this basis. Other factors were much more strongly associated with grade point average. Number of credit hours carried, type of major and religion were all important; race and sex were not.

On the basis of these findings, we do not believe that television is a predatory competitor to the college educator, at least when the criterion is grade point achieved. These results for college students are also quite similar to those reported by Thompson for third graders. He found a significant negative correlation between hours of viewing and achievement test scores. However, when he partialled on mental age, the negative correlation became insignificant.[22]

Thus, our prior hypothesis was not strongly supported. The amount of television viewing appears to be but a minor influence on academic performance, when the effects of academic major, course load and demographic variables are also considered.

Table 1

Summary of Chi-Square Tests

Relationship	x^2	Significance
Daily TV watching and hours worked	22.8	NS*
Weekly TV watching and hours worked	12.9	NS
Grade point average and hours worked	21.2	NS
Expected grade point average and hours worked	21.1	$p<.05$
Grade point average and daily TV watching	22.1	NS
Expected grade point average and daily TV watching	20.9	$p<.06$
Grade point average and weekly TV watching	21.6	$p<.05$
Expected grade point average and weekly TV watching	8.8	NS

*NS means not significant at $p<.10$

Table 2

SUMMARY OF REGRESSION ANALYSES - EQUATION 1, DAILY TV WATCHING AS DEPENDENT VARIABLE

VARIABLE	No.of Credits	Prefer TV to Study	Equal TV & Study	Study first TV after	Hours Worked	Race Black	Race White	Race Oriental	CONSTANT
COEFFICIENT	-.06	.92	.34	.15	-.001	-.35	-.78	-.[illegible]	3.7
t-Statistic	-2.67	4.26	1.7	1.0	-.13	-1.08	-2.9	-2.3	8.3
Significance[1]	p<.005	p<.001	p<.05	NS	NS	NS	p<.005	p<.01	p<.001
Consistency with tentative Hypothesis[2]	✓		✓		X		—		

Summary Statistics:

Coefficient of determination	.083
F Statistic	5.2
Significance	p<.0001

[1] 1-tailed test

[2] Agrees ✓
Disagrees X
No hypothesis —

Table 3

SUMMARY OF REGRESSION ANALYSIS - EQUATION 2, GRADE POINT AVERAGE

VARIABLE	No.of Credits	Daily TV Watching	Sex	Race			Religion			Science	Math	Language
				Black	White	Oriental	Jewish	Catholic	Protestant			
COEFFICIENT	.05	-.038	-.074	-.067	.12	.12	-.098	-.19	-.01	-.006	.55	.47
t-statistic	7.30	-1.75	-1.2	-.41	.93	.65	-1.19	-2.04	-.085	-.049	3.88	2.05
Significance[1]	p<.001	p<.05	NS	NS	NS	NS	NS	p<.05[2]	NS	NS	p<.002	p<.05
Consistency with hypothesis[3]	✓	✓			—			X				

Summary Statistics		
	Coefficient of Determination	.22
	F-Statistic	7.6
	Significance	p<.001

[1] one-tailed test unless indicated

[2] two-tailed test

[3] hypothesis

Agrees ✓

Disagrees X

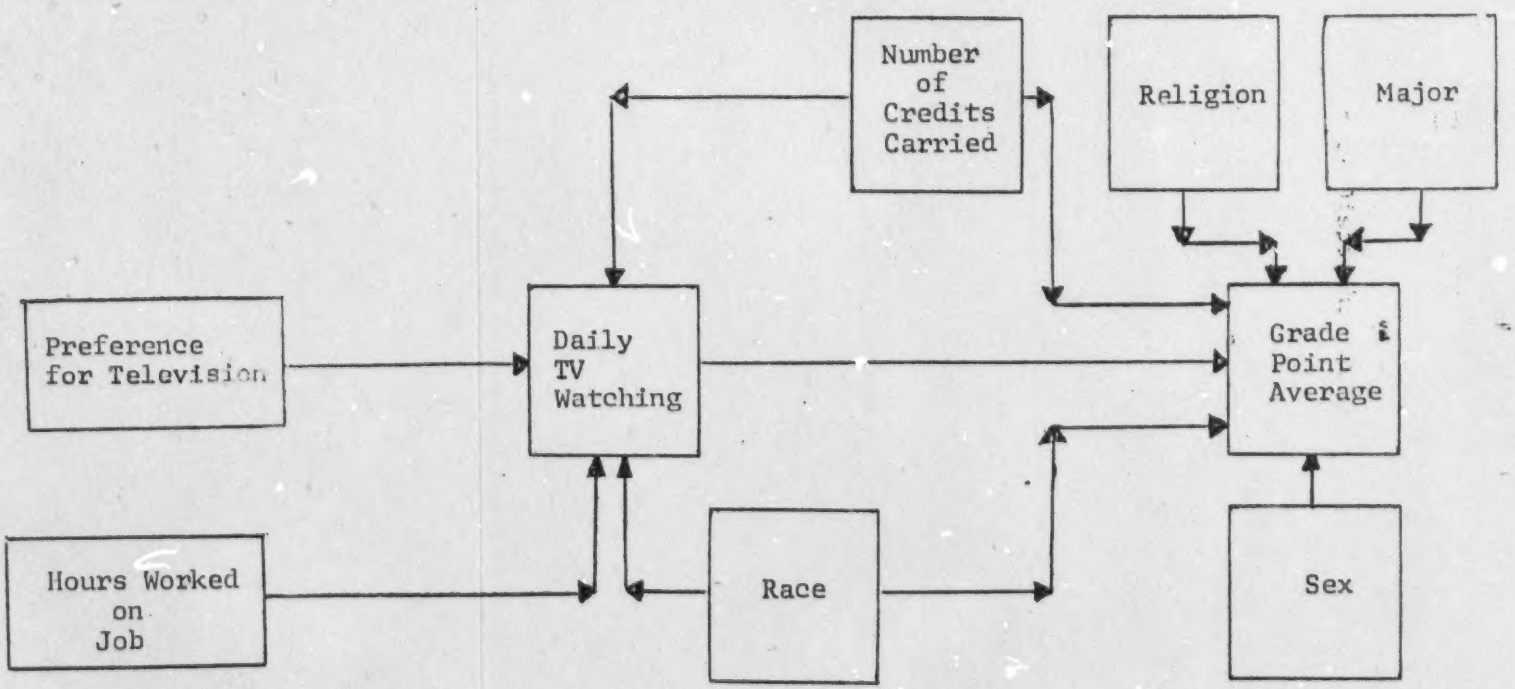
No hypothesis —

AS DEPENDENT VARIABLE

Major					CONSTANT
Engineering	Arts	Social Science	Pre-professional	Education	
.075	-.038	.29	-.12	.17	1.2
.80	-.24	3.47	-.92	1.1	4.96
NS	NS	p<.002	NS	NS	p<.001

Figure 1

Flowchart Model



FOOTNOTES

1 Herbert J. Gans, "The Famine in Mass Communications Research: Comments on Hirsch, Tuchman and Gecas," American Journal of Sociology, Vol.77, No.4, pp. 697-705.

2 For summaries and reviews of examples of such studies, see J.D. Halloran, The Effects of Mass Communication with Special Reference to Television, Leicester: Leicester University Press, 1965, and R.E. Hartley, A Review and Evaluation of Recent Studies on the Impact of Violence, C.B.S., Inc.: Office of Social Research, 1964.

3 For an interesting recent summary, see J.D. Halloran (ed.), The Effects of Television, London: Panther Books, 1970.

4 William Belson, The Impact of Television, London: Crosby Lockwood, 1967.

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13 Ibid., p.172

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15 Ibid., p. 13

16 Mary Steiner, The People Look at Television, New York: Alfred A. Knopf, 1962

Footnotes continued

17 John P. Robinson, "Television and Leisure Time: Yesterday, Today and (Maybe) Tomorrow," Public Opinion Quarterly, Vol.33, 1969, pp. 210-222.

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19 Rolf Meyersohn, Television and the Rest of Leisure, Miami: American Sociological Foundation, 1966.

20 D.B. Suits, "Use of Dummy Variables in Regression Equations," Journal of the American Statistical Association, Vol.52, 1957, pp. 548-551

21 E. Malinvaud, Statistical Methods of Econometrics, Chicago: Rand McNally and Co., 1966

22 Thompson, op.cit., p.172